

STATEMENT OF THE CLAIMS

1. (currently amended) An apparatus for occluding a blood vessel having an inner wall with an interior diameter, wherein the inner wall defines a lumen with a longitudinal axis, the apparatus comprising:

a. a plug for insertion along the longitudinal axis into the lumen of the blood vessel, the plug having a tapered outer surface and a large diameter section with a cross-sectional diameter greater than the interior diameter of the lumen of the inner wall such that the plug is so as to be gripped by compressive forces exerted by the elastic nature of the walls-inner wall of the blood vessel and thereby occludes blood flow through the lumen of the blood vessel; and

b. an insertion device having means to attach the plug to the insertion device and means for providing an axial force to insert the plug into the blood vessel.

2. (currently amended) The apparatus as recited in claim 1 wherein the plug has a ~~tapered outer surface~~ and a pilot hole to enable the plug to be attached to the insertion device.

3. (currently amended) The apparatus as recited in claim 1 wherein the plug has a ~~tapered outer surface~~, an inner corrugated surface and a pilot hole to enable the plug to be attached to the insertion device.

4. (currently amended) The apparatus of claim 1 wherein the plug comprises a rounded end, a first cylindrical body attached to the rounded end, a disc attached to the first cylindrical body, the diameter of the disc being larger than diameter of the first cylindrical body, a second cylindrical body attached to the disc, and a pilot hole on the

second cylindrical body, the pilot hole enabling the plug to be attached to the insertion device.

5. (original) The apparatus as recited in claim 1 wherein the plug is made of silicon.

6. (currently amended) The apparatus as recited in claim 1 wherein the insertion device further comprises:

- a. a needle;
- b. a tubular needle guard surrounding the needle, the ~~tubular~~ needle guard fitting into a pilot hole of the plug;
- c. a spring connected to the needle to propel the needle outwards; and
- d. a lever operable to compress and decompress the spring.

7. (currently amended) A plug for occluding a blood vessel having an inner wall with an interior diameter, wherein the inner wall defines a lumen, the plug being propelled by an insertion device into the lumen of the blood vessel comprising:

a tapered outer surface and a large diameter section with a cross-sectional diameter greater than the interior diameter of the lumen of the inner wall such that the plug is so as to be gripped by compressive forces exerted by the elastic nature of the walls-inner wall of the blood vessel when inserted into the lumen of the blood vessel by an insertion device to thereby occlude blood flow through the lumen of the blood vessel;
and

~~the plug comprising~~ means for attaching the plug to the insertion device.

8. (original) The plug as recited in claim 7 wherein the attaching means is a pilot hole to enable the plug to be attached to the insertion device.

9. (cancelled)

10. (original) The plug as recited in claim 7 9 further comprising an inner corrugated surface.

11. (currently amended) The plug of claim 7 further comprising a rounded end, a first cylindrical body attached to the rounded end, a disc attached to the first cylindrical body, the diameter of the disc being larger than diameter of the first cylindrical body, a second cylindrical body attached to the disc, and a pilot hole on the second cylindrical body, the pilot hole enabling the plug to be attached to the insertion device.

12. (original) The plug as recited in claim 7 wherein the plug is made of silicone.

13. (currently amended) An insertion device for inserting a an occlusion plug into a blood vessel, the insertion device comprising:

- a. a needle;
- b. a tubular needle guard surrounding the needle, the ~~tubular~~ needle guard fitting into a pilot hole of the occlusion plug;

c. a spring connected to the needle to propel the needle outwards to propel the occlusion plug into the blood vessel; and

d. a lever operable to compress and decompress the spring.

14. (new) The apparatus as recited in claim 1 wherein the plug is substantially rigid.

15. (new) The apparatus as recited in claim 1 wherein the plug further comprises a plurality of spokes that project rearward and radially outward from within said large diameter section.

16. (new) The apparatus as recited in claim 15 wherein said spokes extend radially outward to tips that are spaced apart in an annular fashion at a diameter greater than the cross-sectional diameter of the large diameter section.

17. (new) The apparatus as recited in claim 15 wherein said spokes comprise metal.

18. (new) The apparatus as recited in claim 17 wherein said metal comprises tungsten.

20. (new) The plug as recited in claim 7 wherein the plug is substantially rigid.

21. (new) The plug as recited in claim 7 further comprising a plurality of spokes that project rearward and radially outward from within said large diameter section.

22. (new) The plug as recited in claim 21 wherein said spokes extend radially outward to tips that are spaced apart in an annular fashion at a diameter greater than the cross-sectional diameter of the large diameter section.

23. (new) The plug as recited in claim 21 wherein said spokes comprise metal.

24. (new) The plug as recited in claim 23 wherein said metal comprises tungsten.